TABLE OF CONTENTS

JANUARY NUMBER

(Issued January 25, 1935)

PAGE

Portrait of KAMETARO TOYAMA ..... Frontispiece

LINDSTROM, E. W., Segregation of quantitative genes in tetraploid tomato hybrids as evidence for dominance relations of size characters 1

SINNOTT, EDMUND W., Evidence for the existence of genes controlling shape 12

BRINK, R. A. and COOPER, D. C., A proof that crossing over involves an exchange of segments between homologous chromosomes 22

IMAI, YOSHITAKA, Variation in the rate of recurring plastid mutations in *Hordeum vulgare* caused by differences in the sowing times 36

PLOUGH, HAROLD H. and IVES, PHILIP T., Induction of mutations by high temperature in Drosophila 42

ANDERSON, E. G., Chromosomal interchanges in maize 70

WRIGHT, SEWALL, A mutation of the guinea pig, tending to restore the pentadactyl foot when heterozygous, producing a monstrosity when homozygous 84

MARCH NUMBER

(Issued March 20, 1935)

CHILD, GEORGE, Phenogenetic studies on scute-1 of *Drosophila melanogaster*. I. The associations between the bristles and the effects of genetic modifiers and temperature 109

CHILD, GEORGE, Phenogenetic studies on scute-1 of *Drosophila melanogaster*. II. The temperature-effective period 127

MARGOLIS, OTTO S., Studies on the Bar series of Drosophila. I. The effect of the gene vestigial on facet number in Bar 156

PATTERSON, J. T. and STONE, W. S., Some observations on the structure of the scute-8 chromosome of *Drosophila melanogaster*. 172

BEADLE, G. W., Crossing over near the spindle attachment of the X chromosomes in attached-X triploids of *Drosophiia melanogaster* 179

BEADLE, G. W. and EMERSON, STERLING, Further studies of crossing over in attached-X chromosomes of *Drosophila melanogaster* 192

TABLE OF CONTENTS

(CONTINUED)

MAY NUMBER

(Issued June 8, 1935)

PAGE

MARGOLIS, OTTO S., Studies on the Bar series of *Drosophila melanogaster*. II. The temperature-effective period for facet determination in Bar and Bar vestigial 207

LEBEDEFF, G. A., Further studies on factor interaction in *Drosophila virilis* 223

WARD, FRANCES D., The production of mutations in *Drosophila melanogaster* by irradiation with alpha-rays 230

HAMLETT, G. W. D., Human twinning in the United States: Racial frequencies, sex ratios, and geographical variations 250

PATTERSON, J. T., STONE, WILSON and BEDICHEK, SARAH, The genetics of X-hyperploid females 259

BOSTIAN, C. H., Biparental males and hatchability of eggs in Habrobracon 280

OLMO, H. P., Genetical studies of monosomic types of *Nicotiana Tabacum* 286

JULY NUMBER

(Issued July 1, 1935)

PAINTER, THEOPHILUS S., The morphology of the third chromosome in the salivary gland of *Drosophila melanogaster* and a new cytological map of this element 301

PAINTER, THEOPHILUS S. and STONE, WILSON, Chromosome fusion and speciation in Drosophilae 327

MALINOWSKI, E., Studies on unstable characters in Petunia. I. The extreme flower types of the unstable race with mosaic color patterns 342

SURRARRER, T. C., The effect of temperature on a mottled-eye stock of *Drosophila melanogaster* 357

KOSSIKOV, K. V., The lack of effect of etherization on the X-ray mutation rate in *Drosophila simulans* 363

DOBZHANSKY, TH., The Y chromosome of *Drosophila pseudoobscura* . 366

DOBZHANSKY, TH., *Drosophila miranda*, a new species 377

TAN, C. C., Salivary gland chromosomes in the two races of *Drosophila pseudoobscura* 392

TABLE OF CONTENTS

(CONTINUED)

SEPTEMBER NUMBER

(Issued September 3, 1935)

	PAGE
EAST, E. M., Genetic reactions in Nicotiana. I. Compatibility	403
EAST, E. M., Genetic reactions in Nicotiana. II. Phenotypic reaction patterns	414
EAST, E. M., Genetic reactions in Nicotiana. III. Dominance	443
MOZLEY, ALAN, The variation of two species of Lymnaea	452
MURRAY, W. S. and LITTLE, C. C., The genetics of mammary tumor incidence in mice	466
SCHWEITZER, MORTON D., An analytical study of crossing over in *Drosophila melanogaster*	497

NOVEMBER NUMBER

(Issued November 1, 1935)

KNOX, C. W., The inheritance of shank color in chickens	529
SNELL, GEORGE D., The induction by X-rays of hereditary changes in mice	545
LESLEY, M. M. and LESLEY, J. W., Heteromorphic A chromosomes of the tomato differing in satellite size	568
SCHWEITZER, MORTON D. and KALISS, NATHAN, Does sister-strand crossing over occur in *Drosophila melanogaster*?	581
STRONG, LEONELL C., The establishment of the C_3H inbred strain of mice for the study of spontaneous carcinoma of the mammary gland	586
Index	593

CORRIGENDA

VOLUME 19, 1934

Page 605, line 11, for "F_1 generation females (249 birds) from the reciprocal cross when backcrossed to males from the early maturity strain had a mean maturity age of 217.5 ± 1.54 days" read "F_1 generation females from the reciprocal cross when backcrossed to males from the early maturity strain produced daughters (249 birds) with a mean maturity age of 217.5 ± 1.54 days."

VOLUME 20, 1935

Page 96, line 16, for "severaly ears" read "several years."
Page 193, line 4, for "Wettstein" read "Wettsteins."
Page 260, line 2, for "the right-hand and" read "the right-hand end."
Page 371, line 2, for Lake "Okangan" read Lake "Okanagan."
Page 378, Table 1, for "Length of the hind tibiae in (at 24 1/2°)" read "Length of the hind tibiae in M (at 24 1/2°)."